C17 a NOx treating catalyst for reducing NOx disposed in an exhaust gas passageway of a combustion device, to reduce NOx in presence of reducing components in exhaust gas; and

a hydrogen enriching device disposed upstream of said NOx treating catalyst with respect to flow of exhaust gas from the combustion device and arranged to increase a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas so as to meet relations represented by following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

C31 $[H2 / TR]d > [H2 / TR]u$ ...(1)

$[H2 / TR]d \geq 0.3$ ...(2)

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching device and combustion gas in a state before undergoing the hydrogen ratio increasing by said hydrogen enriching device; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration [TR]d of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and downstream of said hydrogen enriching device,

wherein said hydrogen enriching device is at least one selected from the group consisting of a device for producing hydrogen in at least one of combustion gas and exhaust gas, a device for decreasing the reducing components other than hydrogen in at least one of combustion gas and exhaust gas, and a device for suppressing consumption of hydrogen in at least one of combustion gas and exhaust gas, wherein the device for producing hydrogen in at least one of combustion gas and exhaust gas includes at least one selected from the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.

B2 C1 18. (Once Amended) An exhaust gas purifying system as claimed in claim 1, wherein the hydrogen producing catalyst has a function to produce hydrogen from HC and CO in at least one of combustion gas and exhaust gas.

C1 28. (Twice Amended) An exhaust gas purifying system comprising:

a NOx treating catalyst for reducing NOx disposed in an exhaust gas passageway of a combustion device, to reduce NOx in presence of reducing components in exhaust gas; and

means for enriching hydrogen disposed upstream of said NOx treating catalyst with respect to flow of exhaust gas from the combustion device, said hydrogen enriching means is for increasing a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas so as to meet relations represented by the following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

B3 $[H2/TR]d > [H2/TR]u \ldots(1)$

$[H2 / TR]d \geq 0.3 \ldots(2)$

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching device and combustion gas in a state before undergoing the hydrogen ratio increasing by said hydrogen enriching means; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration [TR]d of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and downstream of said hydrogen enriching means,

wherein said means for enriching hydrogen is at least one selected from the group consisting of a means for producing hydrogen in at least one of combustion gas and exhaust gas, a means for decreasing the reducing components other than hydrogen in at least one of combustion gas and exhaust gas, and a means for suppressing consumption of hydrogen in

at least one of combustion gas and exhaust gas, wherein the means for producing hydrogen in at least one of combustion gas and exhaust gas includes at least one selected from the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.

29. (Twice Amended) A method of purifying exhaust gas from a combustion device provided with an exhaust gas purifying system including a NOx treating disposed in an exhaust gas passageway of the combustion device, a NOx treating catalyst reducing NOx in presence of reducing components in exhaust gas, said method comprising:

increasing a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas to be supplied to the NOx treating catalyst so as to meet relations represented by the following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

$$[H2 / TR]d > [H2 / TR]u \quad ...(1)$$

$$[H2 / TR]d \geq 0.3 \quad ...(2)$$

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching and combustion gas in a state before undergoing the hydrogen ratio increasing; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration [TR]d of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and in a state after undergoing the hydrogen ratio increasing;

wherein said ratio of hydrogen to total reducing components is increased by at least one selected from the group consisting of producing hydrogen in at least one of combustion gas and exhaust gas, decreasing the reducing components other than hydrogen in at least

C1 one of combustion gas and exhaust gas, and suppressing consumption of hydrogen in at least one of combustion gas and exhaust gas, wherein producing hydrogen in at least one of combustion gas and exhaust gas is produced by a device including at least one selected from B3 the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.

C1 30. (Once Amended) An exhaust gas purifying system comprising:

a NOx treating catalyst for reducing NOx disposed in an exhaust gas passageway of a combustion device, to reduce NOx in presence of reducing components in exhaust gas; and

B4 a hydrogen enriching device disposed upstream of said NOx treating catalyst with respect to flow of exhaust gas from the combustion device and arranged to increase a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas so as to meet relations represented by following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

$$[H2 / TR]d > [H2 / TR]u \quad ...(1)$$

$$[H2 / TR]d \geq 0.3 \quad ...(2)$$

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching device and combustion gas in a state before undergoing the hydrogen ratio increasing by said hydrogen enriching device; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration [TR]d

of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and downstream of said hydrogen enriching device,

wherein said hydrogen enriching device produces hydrogen out of at least one of combustion gas and exhaust gas, wherein the hydrogen enriching device includes at least one selected from the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.

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33. (Once Amended) An exhaust gas purifying system comprising:

a NOx treating catalyst for reducing NOx disposed in an exhaust gas passageway of a combustion device, to reduce NOx in presence of reducing components in exhaust gas; and

a hydrogen enriching device disposed upstream of said NOx treating catalyst with respect to flow of exhaust gas from the combustion device and arranged to increase a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas so as to meet relations represented by following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

$[H2 / TR]d > [H2 / TR]u$ ...(1)

$[H2 / TR]d \geq 0.3$ ...(2)

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching device and combustion gas in a state before undergoing the hydrogen ratio increasing by said hydrogen enriching device; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration

[TR]d of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and downstream of said hydrogen enriching device,

wherein the hydrogen enriching device produces hydrogen from HC and CO in at least one of combustion gas and exhaust gas, wherein the hydrogen enriching device for enriching hydrogen in at least one of combustion gas and exhaust gas includes at least one selected from the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.

34. (Once Amended) An exhaust gas purifying system as claimed in claim 33, wherein the hydrogen enriching device includes a first catalytic component for oxidizing HC and CO to decrease oxygen, said first catalytic component being disposed in a first section of the hydrogen enriching device, and a second catalytic component for producing hydrogen and disposed in a second section of the hydrogen enriching device, the second section being located downstream of the first section with respect to flow of exhaust gas, so that an amount of oxygen contacting the second catalytic component is decreased.

35. (Once Amended) An exhaust gas purifying system comprising:

a NOx treating catalyst for reducing NOx disposed in an exhaust gas passageway of a combustion device, to reduce NOx in presence of reducing components in exhaust gas; and

a hydrogen enriching device disposed upstream of said NOx treating catalyst with respect to flow of exhaust gas from the combustion device and arranged to increase a ratio of hydrogen to total reducing components in at least one of combustion gas and exhaust gas

so as to meet relations represented by following formulae (1) and (2), when reduction of NOx is carried out by said NOx treating catalyst:

$$[H2 / TR]d > [H2 / TR]u \quad ...(1)$$

$$[H2 / TR]d \geq 0.3 \quad ...(2)$$

where [H2 / TR]u is a ratio between a concentration [H2]u of hydrogen and a concentration [TR]u of total reducing components in at least one of exhaust gas in the exhaust gas passageway upstream of said hydrogen enriching device and combustion gas in a state before undergoing the hydrogen ratio increasing by said hydrogen enriching device; and [H2 / TR]d is a ratio between a concentration [H2]d of hydrogen and a concentration [TR]d of total reducing components in exhaust gas in the exhaust gas passageway upstream of the NOx treating catalyst and downstream of said hydrogen enriching device, and wherein both the NOx treating catalyst and the hydrogen enriching device are disposed in the exhaust passageway and wherein exhaust gas passes through the hydrogen enriching device, wherein the hydrogen enriching device includes at least one selected from the group consisting of a hydrogen producing catalyst containing at least one noble metal, and a combustion control device for controlling at least one selected from the group consisting of operating parameters of an internal combustion engine and combinations of the operating parameters, the operating parameters including fuel injection timing, spark timing, opening and closing timings of intake and exhaust valves of the internal combustion engine.